



**REPORT OF THE
COMPTROLLER AND AUDITOR GENERAL
OF INDIA**

**UNION GOVERNMENT
No. 18 (COMMERCIAL) OF 1991**

**OIL AND NATURAL GAS COMMISSION
INVENTORY CONTROL**



सत्यमेव जयते

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EXHIBITORY CONTROL

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O V E R V I E W

I. The main activity of the ONGC is to promote, organise and implement programmes for the development of petroleum resources and the production and sale of petroleum and petroleum products. This Mini-review deals with the 'Inventory Control' in respect of stores and spares of the Commission.

(Paras 1.1 and 1.2)

II. In spite of computerisation of inventory control system there were large increases in inventory from a level of Rs.442.57 crores in 1983-84 to Rs.1334.48 crores in 1990-91.

(Paras 4.1 and 4.2)

III. The inventory holding of spares during the years 1983-84 to 1990-91 ranged from Rs.138.96 crores (31.27 stock months) to Rs.489.53 crores (36.25 stock months) as compared to the norms of 24 stock months upto 1987-88 and 18 stock months from 1988-89 onwards. In spite of the inventory holding of spares being more than the norms, the procurement of spares was much higher than consumption.

(Paras 4.10 to 4.13)

IV. Material in transit constituted a sizeable amount both in terms of value and percentage of the total inventory of the Commission. In 1990-91 it was Rs.172.11 crores, i.e. about 1/8th of the total inventory of Rs.1334.48 crores of the Commission.

(Para 4.14)

V. Non-moving items constituted about 1/5th of the total inventory of the Commission. In value terms, the non-moving inventory had gone up steadily from Rs.64.29 crores in 1983-84 to Rs.228.21 crores in 1990-91.

(Paras 5.1.2 & 5.1.3)

VI. Slow moving inventory was nearly 1/6th of the total inventory of the Commission. In terms of stock months, the slow moving items ranged from 85 months' consumption to 109 months' consumption.

(Para 5.2.2)

VII. In November 1981 identified stores and spares of Rs.12.45 crores were surplus to the Commission's requirements. The disposal of surplus items identified was slow. As at the end of the year 1990-91 Rs.5.01 crores worth surplus inventory was lying undisposed of.

(Paras 5.3.1 to 5.3.3)

VIII. The discrepancies on verification of items of stores and spares ranged between 7.47 percent to 23.94 percent during the period 1983-84 to 1990-91.

(Para 6.1)

IX. While the inventory holding in some old projects accumulated substantially over the years, the position in respect of recent projects viz. Jammu and Gandak Projects, was also far from satisfactory and indicated excessive procurement of stores and spares.

(Paras 7.1, 7.2.1, 7.2.4 & 7.3.2)

X. In spite of computerisation, purchase of stores and spares in excess of requirement/prescribed norms continued.

1. INTRODUCTION

1.1 According to the ONGC Act, 1959, the main activity of the Oil and Natural Gas Commission (the Commission) is to promote, organise and implement programmes for the development of petroleum resources and the production and sale of petroleum and petroleum products produced by it.

1.2 This review deals with the inventory control of the stores and spares by the Commission for the period 1983-84 to 1990-91.

1.3 The "Material Management and Inventory Control" by the Commission was last reviewed in paragraph 10, Part VIII of Audit Report (Comml.) 1970 (Union Government).

2. ORGANISATIONAL SET UP

Due to the expansion of the activities of the Commission the work was reorganised in August 1984 on the basis of functional business groups viz. Exploration, Drilling, Operations and Technical Services, with each business group having functionally autonomous and structured support groups for (i) personnel & administration (ii) finance and accounts, and (iii) material management.

Each functional business group is headed by a Member and is supported, where necessary, by a purchase department which caters to its requirement at Regional and Headquarters level. An Inventory Control Cell is located at the Corporate level of the Commission which scrutinises the indents relating to purchases to be made at Headquarters and also monitors the inventory of the Commission.

3. COMPUTERISATION OF INVENTORY

3.1 In July 1976, Engineers India Limited, (EIL) was engaged by the Commission to evolve a computerised system of inventory management, which was to be integrated with financial control and could provide information regarding inventory holdings to the management. EIL submitted their report by March, 1977 and continued to assist the Commission in the establishment of the system till March, 1979.

3.2 The Ministry constituted a Committee under the chairmanship of Shri M.D. Mongia, Advisor (Material Management), Bharat Heavy Electricals Limited (BHEL) in July 1979 to undertake a study to streamline the existing procedures. The Committee, inter-alia, noted that EIL, while formulating the inventory system, did not go into the question of codification and rationalisation. The Committee felt that there was a need to review the entire rationalisation and codification to ensure that the same items were not held in stock at different locations under different code numbers.

3.3 The Ministry stated (December, 1990) that the recommendations of the Committee were implemented in 1985-86. However, keeping in view the fact that the activities of the Commission were spread all over the country, holdings of some items in stock at different locations under temporary code numbers was unavoidable. Temporary coded items were later on converted to permanent code numbers by processing through computer.

3.4 It was, however, noticed that a large number of items whose stock values were quite substantial were still held under temporary code numbers as indicated below. Conversion of

temporary coded items to permanent code numbers should be completed expeditiously for proper inventory assessment and control.

<u>Year</u>	<u>No. of items</u>	<u>Consumption value</u> (Rupees in crores)	<u>Stock value</u>
1987-88	181133	129.55	260.90
1988-89	164626	124.30	261.30
1989-90	155180	136.01	257.17
1990-91	150700	122.65	314.52

4. INVENTORY HOLDINGS

4.1 The following table gives the position of inventory holdings of the Commission from 1983-84 to 1990-91 :

As on 31st March of each year.	Inventory Value (including materials at site and in transit)	Increase over previous year.	%age increase over previous years.
--	--	---------------------------------------	--

(Rupees in crores)

1984	442.57	--	--
1985	567.63	125.06	28.25
1986	870.54	304.91	53.36
1987	1067.79	197.25	22.65
1988	1089.31	21.52	2.01
1989	1145.54	56.23	5.10
1990	1195.72	50.18	4.30
1991	1334.48	138.76	11.60

4.2 In spite of computerisation of inventory control in 1979, there were large increases in inventory in 1985, 1986 and 1987. After the reorganisation of the Commission into business groups in 1984 with decentralisation of purchases, there was an abnormal increase of 53.36% of inventory holdings in 1986 over the holdings of the previous year. It increased by 22% in 1987 whereafter the annual increase in the value of inventory came down. Till 1987 control and monitoring of inventory holdings was relatively inadequate in spite of computerisation.

4.3 It may be mentioned that an expert consultant appointed in July 1987 by the Commission to review the over all Material Management and Inventory Control, observed (August 1987) that though the increase in the levels of inventory was partially attributable to the increase in the level of activities, the general trend showed that it had been disproportionately high and pointed out the following defects in the system of indenting, procurement and stocking of stores and spares :

"(i) While determining the quantities to be indented the user departments take into account the stock of a particular item as on the date of initiation of indent, materials in pipeline/on order pertaining to the Work Centre/Region from where the indent emanates. The stocks available in other Regions/Work Centres are not generally taken into account.

(ii) Once the financial sanction is obtained and an indent is raised normally there is no system in practice requiring a review being made as to the exact requirements and quantities thereof and the indent is allowed to go through the process till it is converted as an order.

(iii) As the specifications of the items are not standardised or uniformly adopted, similar items are procured/stocked at different work centres under different code numbers.

(iv) Major portion of the initial 2 years normal maintenance spare parts ordered along with the original equipment at the time of its procurement turn out to be non-moving inventory.

(v) There is no centralised monitoring system or mechanism with adequate powers vested with such an authority for re-allocation of the resources.

(vi) Though the codification of all items has been taken up on a massive scale and a good progress has been made the desired results on this account have so far not been realised in practice. Procurement of the same item under different temporary codes continues.

(vii) Material-in-transit is one factor which has been continuously on the increase. Large quantities of items in transit have contributed for excessive provisioning.

(viii) Looking to the long lead items particularly in respect of imported items, there is a tendency on the part of user departments to indent excess quantities to provide a cushion."

4.4 While reviewing the inventory status for the year ending 31.3.1990 the Management stated in July 1990 that the growth of inventory during the period 1984-85 to 1986-87 had been mainly due to the re-organisation of the Commission in business groups in mid 1984, wherein due emphasis and active coordination for optimum inventory control at the corporate level was missing.

4.5 The Ministry, however, stated (December, 1990) that the growth of inventory during 1983-84 to 1987-88 was neither due to the reorganisation of the Commission's activities in business groups nor on account of lack of control due to decentralisation. In fact, the growth of inventory was related to the growth of activities in the Commission.

4.6 In spite of the shortcomings pointed out by the consultant adequate corrective action was not taken by the Commission with the result that excessive stocks of stores and spares continue to be held by the Commission. This would be clear from subsequent paragraphs and from Chapter 5.

4.7 The norms fixed by the Commission for inventory holding of stores and spares were 12 months' and 24th months' consumption requirement respectively which were revised to 9 months' and 18 months consumption requirement in April 1988.

4.8 The inventory holdings of stores for the year 1984-85 to 1990-91 were as under :-

Year	Consumption (Rupees)	Closing stock in crores)	Stock month
1984-85	206.33	194.07	11.29
1985-86	272.65	310.83	13.69
1986-87	346.51	392.60	13.60
1987-88	422.71	424.72	12.06
1988-89	433.65	462.78	12.81
1989-90	572.98	513.47	10.75
1990-91	569.39	670.20	14.12

4.9 Except in 1984-85 and 1989-90 the inventory of stores was higher than the prescribed norms, resulting in blocked capital.

4.10 The inventory holdings of spares for the years 1983-84 to 1990-91 were as under :-

Year	Consumption (Rupees)	Closing stock in crores)	Stock month
1983-84	48.78	138.96	34.18
1984-85	71.01	185.06	31.27
1985-86	82.43	247.48	36.03
1986-87	125.25	360.41	34.53
1987-88	147.14	420.14	34.26
1988-89	165.02	449.80	32.71
1989-90	155.91	471.04	36.25
1990-91	167.48	489.53	35.07

4.11 The inventory holdings of spares was much higher than the prescribed norm of 24 months' consumption upto 1987-88 and the revised norm of 18 months' consumption from 1988-89 onwards. This was due to excess procurement of spares as indicated in the following table :

Year	Receipt	Consumption	Excess of receipt over consumption	Percentage of excess of receipt over consumption to receipt
(Rupees in crores)				
1983-84	90.49	48.78	41.71	46.09
1984-85	119.28	71.01	48.27	40.47
1985-86	145.95	82.43	63.52	43.52
1986-87	245.19	125.25	119.94	48.92
1987-88	218.13	147.14	70.99	32.54
1988-89	202.51	165.02	37.49	18.51
1989-90	182.42	155.91	26.51	14.53
1990-91	191.85	167.48	24.37	12.70

NOTE : Receipt figures shown in the table relate to fresh purchases plus transit clearance.

4.12 The Ministry stated (December 1990) that in order to restrict the growth in the inventory of spares, directives have been issued by the Commission to restrict the procurement of spares except to meet emergent requirement with the specific approval of Regional Directors. As a result, growth of inventory has shown a declining trend. In relation to the growth of capital and fixed assets investment, the percentage of spares holding is gradually declining.

4.13 While the excess of receipts over consumption has shown a declining trend, the fact remains that the receipt of spares continue to be more than consumption despite ban on procurement of spares due to inventory holding being much more than the norms.

4.14 As a direct result of excessive procurement of inventory, the value of material in transit (MIT) was also fairly high each year, though it decreased during the period 1988-89 to 1990-91:

Year	Total inventory	Material in Transit (MIT)	Percentage of MIT to total inventory
	(Rupees in crores)		
1983-84	442.57	111.98	25.30
1984-85	567.63	186.85	32.92
1985-86	870.54	310.27	35.64
1986-87	1067.79	313.21	29.33
1987-88	1089.31	242.62	22.27
1988-89	1145.54	228.92	19.98
1989-90	1195.72	209.10	17.49
1990-91	1334.48	172.11	12.90

4.15 MIT constituted a sizeable amount both in terms of value and percentage of the total inventory of the Commission. At the end of the year 1990-91 it constituted about 1/8th of the total inventory of the Commission.

4.16 The Ministry stated that the percentage of MIT to total inventory was gradually declining and further stated that since MIT included materials on high seas/on way to project, a portion of material remaining in transit was inevitable.

5. NON-MOVING, SLOW MOVING, SURPLUS AND HIGH VALUE ITEMS OF INVENTORY

5.1 Non-moving Inventory

5.1.1 The position of non-moving inventory compared to the total inventory during the period 1983-84 to 1990-91 was as under:

Year as at 31st March	Physical inventory of stores and spares including at site	Value of non-moving inventory	Increase over pre-vious year	%age of non-moving to total inventory
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(Rupees in crores)

1984	329.32	64.29	--	19.52
1985	379.13	76.82	12.53	20.26
1986	558.31	108.78	31.96	19.48
1987	753.01	160.88	52.10	21.36
1988	844.86	193.71	32.83	22.93
1989	912.58	218.45	24.74	23.86
1990	984.51	146.17	(72.28)	14.85
1991	1159.74	228.21	82.04	19.68

5.1.2 The non-moving items constituted about 1/5th of the total inventory of the Commission. The value of non-moving inventory had also gone up steadily from Rs.64.29 crores in 1983-84 to Rs.228.21 crores in 1990-91.

5.1.3 The preceding table would indicate that computerisation of inventory has not helped in improving the holdings of non-moving items. The increase in non-moving inventory as on 31st March 1991 was found to be mainly in respect of items valuing Rs.10 lakhs and above. The total number of non-moving high-value items increased from 242 items valuing Rs.48.03 crores in 1986-87 to 279 items valuing Rs.72.99 crores in 1990-91. The total amount blocked in respect of non-moving items valuing Rs.50 lakhs and above alone was Rs.39.33 crores.

5.1.4 The Ministry stated that :-

- (i) The non-moving inventories mainly related to insurance/standby items and because of large investments in capital

and fixed assets the accessories and spares procured alongwith the equipment, the use of such items cannot be predicted and as a result remained unconsumed at the end of the year.

- (ii) The Commission has already issued instructions to take action against the defaulting indenting officers by the respective regions.

5.1.5 The reply of the Ministry is not tenable as the value of insurance items identified, finalised and circulated till 1989-90 amounted to Rs.28.71 crores only as against the total non-moving inventory of Rs.146.17 crores as on 31.3.1990.

5.2 Slow Moving Items

5.2.1 The position of slow moving inventory during five years ended 31st March, 1991 was as under :

Year	Physical inventory of stores and spares including - at site	Value of slow moving items	%age of column (3) to Column (2)	Consumption value	Stock months
(1)	(2)	(3)	(4)	(5)	(6)
(Rupees in crores)					
1986-87	753.01	160.76	21.35	18.02	107
1987-88	844.86	165.66	19.61	23.50	85
1988-89	912.58	169.02	18.46	20.68	98
1989-90	984.51	121.23	12.31	13.32	109
1990-91	1159.74	177.29	15.28	20.66	103

5.2.2 The slow moving inventory was nearly 1/6th of the total inventory of the Commission. In terms of stock months, the slow moving items ranged from 85 months' consumption to 109 months' consumption.

5.2.3 The Ministry stated that the percentage of slow moving items has been brought down from the level in 1986-87. Further, the slow moving lists have been circulated to all the regions of the Commission for review and identifying surpluses, if any.

5.2.4 The reply of the Ministry is not tenable in view of the fact that while the holding of slow moving items represented consumption of 107 months' in 1986-87, they represented consumption of 109 and 103 months' in 1989-90 and 1990-91 respectively. Here also computerisation has had no impact on excess procurement of slow moving items.

5.3 Surplus Items

5.3.1 A task force was constituted in November 1981 for identification of surplus stores and spares for non-moving inventory as on 31.3.1981. The task force identified stores and spares worth Rs.9.95 crores (finally revised to Rs.7.91 crores) and capital items worth Rs.4.54 crores surplus to the Commission's requirements.

5.3.2 The following is the position of disposal of the surplus inventory :-

Year	Opening	(Rupees in crores)		Balance Surplus
		Additions	Disposals	
1983-84	12.45	--	0.03	12.42
1984-85	12.42	--	1.56	10.86
1985-86	10.86	--	0.82	10.04
1986-87	10.04	--	2.26	7.78
1987-88	7.78	--	1.22	6.56
1988-89	6.56	11.58	1.82	16.32
1989-90	16.32	--	6.77	9.55
1990-91	9.55	--	4.54	5.01

5.3.3 It would be observed that disposal of surplus identified in 1983-84 was slow.

6. STOCK VERIFICATION

6.1 The position of stock verification of stores and spares items carried out during the period 1983-84 to 1990-91 was as under :-

Year	No. of verifiable items	Items verified	%age of verification	No. of items where discrepancies noticed	%age of discrepancies revealed
1983-84	339921	235776	69.4	26035	11.04
1984-85	394375	84278	21.4	6294	7.47
1985-86	447264	414299	92.6	68301	16.48
1986-87	430993	428693	99.4	68793	16.05
1987-88	444297	405619	91.3	75745	18.67
1988-89	452967	444703	98.2	106478	23.94
1989-90	578764	542686	93.8	73191	13.48
1990-91	158052	165612	104.8	20589	12.43

6.2 The major reasons for discrepancies analysed by the Commission were as follows :-

(a) physical balance tallied with the cardex balance but not with the computer balance.

(b) numerical cardex balance tallied with computer balance but physical balance did not tally with either of them,

(c) none of the balance-physical, numerical and computer-tallied with each other; and

(d) periodical reconciliation had not been carried out between cardex and Priced Store Ledgers (PSL).

6.3 The Ministry stated (December 1990) that :-

(i) the number of discrepancies depends upon PSL, reconciliation and proper accounting of stores,

(ii) for liquidation of discrepancies task force teams were set up in the Regions; and

(iii) for settlement of old discrepancies pertaining to the year 1977-78 to 1981-82, the matter had been referred to all Material Management (Coordinators) in the Regions to expedite settlement. Instructions had also been issued by Chairman/Member(T) to all the

Regional Directors for expeditious settlement of discrepancies.

6.4 It appears from the Commission's analysis that input data for the computer, PSL and the cardex were different. Unless this problem is sorted out computerisation, instead of assisting the management in inventory management, will only increase confusion.

7. STUDY OF INVENTORY MANAGEMENT IN TWO NEW PROJECTS

7.1 A study of the inventory management of two projects of the Commission indicated excessive procurement of stores and spares leading to excessive stocks and surplus stores and spares. The inventory position of two projects are indicated below :-

7.2 Jammu Project

7.2.1 The position of inventory holdings for the Jammu Project during the year 1987-88 to 1990-91 is indicated below :-

	1987-88	1988-89	1989-90	1990-91
	(Rupees in crores)			
(i) Value of stores	11.80	18.21	20.23	18.82
Stocks months	55	33	217	104
(ii) Value of Spares	5.07	6.97	8.54	8.25
Stock months	43	92	205	139
<u>Consumption</u>				
(a) Value of stores consumed	2.59	6.58	1.12	2.17
(b) Value of spares consumed	1.43	0.91	0.50	0.71

7.2.2 The inventory of stores ranged between 33 and 217 months and of spares between 43 and 205 stock months, which was much in excess of the norms of 12 and 24 months upto 1987-88 and 9 & 18 months from 1988-89 onwards fixed by the Commission.

7.2.3 The Ministry stated (December, 1990) that as per the VII Five Year Plan 33,000 meters were planned to be drilled. Due to late deployment of three rigs, the required meterage could not be achieved by the Commission resulting in lesser consumption of materials. Further, all casings for Surinsar-II well upto 10-3/4" casings depth of 4500 meters were procured for two wells in order to meet any exigency arising out of early abandonment at Surinsar well-II due to any complications. This is also one of the causes of holding such high

inventory. The Ministry also stated that stores and spares worth Rs.2.58 crores had to be declared surplus in the Jammu Project due to the Commission's decision of dropping additional charter hire rig when these items were already planned and procured. However, the Commission is looking to the possibilities of using/diverting these items elsewhere.

7.2.4 Further verification revealed that the latest position of surplus in the project was Rs.3.48 crores as at 31st March, 1991.

7.3 Gandak Project

7.3.1 The position of inventory holdings for the Gandak Project during the years from 1986-87 to 1990-91 is indicated below :-

	1986-87	1987-88	1988-89	1989-90	1990-91
	(Rupees in crores)				
i) Value of Stores	6.89	6.27	5.54	4.74	3.38
Stock months	23	52	21	25	20
ii) Value of Spares	5.07	5.08	4.27	4.09	4.09
Stock months	83	90	39	78	80
<u>Consumption</u>					
a) Value of Stores consumed	3.33	1.45	3.17	2.24	2.03
b) Value of spares consumed	0.73	0.68	1.33	0.63	0.61

7.3.2 The inventory of stores and spares in terms of stock months consumption was much in excess of prescribed norms. Inventory of stores ranged between 20 and 52 stock months and spares between 39 and 90 stock months'

7.3.3 The Ministry stated that excess of inventory over prescribed norms of 12/24 months' for stores/spares consumption respectively, if worked out after excluding surplus inventory, might not be termed high. Non-adherence of 12/24 stock months was primarily due to holding of non/slow moving items in the inventory. Exercise to identify slow/non-moving items was taken up from time to time and items needed in other projects were diverted.

7.3.4 As a measure of inventory reduction the task force of the project identified in October, 1987, 1005 items worth Rs.4.16 crores as surplus to their requirements. As the total inventory of the project as on 31st March, 1988 was Rs.11.89 crores the surplus items constituted 35% of the total inventory.

7.3.5 The Ministry stated (December 1990) that action to liquidate surplus items was in hand, and efforts were being made by the Commission to liquidate surplus items from the inventory.

7.3.6 As on 31st March, 1988, 110 items (each valuing Rs.1 lakh and above) amounting to Rs.483.31 lakhs were identified as slow/non-moving items at Gandak Project. This was about 41% of the total inventory of the project.

7.3.7 The Ministry stated (December, 1990) that the status of the items identified by ONGC as slow/non-moving items was as under :

- (1) 32 items amounting to Rs.5.84 lakhs had been identified as surplus to the requirement of Gandak Project and a list circulated to all Regions/Projects in ONGC to find out requirement, if any, from them;
- (2) 17 items amounting to Rs.6.74 lakhs have already been consumed in the project upto April 1989; and
- (3) 91 items amounting to Rs.6.98 lakhs have been identified for use as per GTO (Geo-Technical Order) in Ganauli/Kadmaha. Remaining items related to spares of which spares worth Rs.22 lakhs had been diverted/consumed. For balance items, action was on hand for review by the Commission.

8. **SUMMING UP**

- i) Inventory Management in the Commission has not yet been tackled effectively with the result that there are excessive stocks valued at Rs.1159.74 crores as on 31.3.1991.
- ii) There are surplus stores and spares valued at Rs.5.01 crores as on 31.3.1991.
- iii) In spite of computerisation, purchase of stores and spares in excess of requirements/prescribed norms continue.

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18 AUG 1992 Countersigned



(C.G. SOMIAH)

New Delhi
The

Comptroller and Auditor General of India

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